

## REMARKS

### Double-patenting rejection

Applicant submits a terminal disclaimer to obviate the double-patenting rejection. Since the double-patenting rejection is provisional, Applicant reserves the right to withdraw the terminal disclaimer should the claims in either the present application or the cited application be amended to an extent such that the Office no longer regards an obviousness double-patenting rejection as being appropriate.

### Section 102 rejection

The *Hayes*<sup>1</sup> device is essentially a "light drill" that bores through plaque clogging an artery. *Hayes* bores through the plaque by shooting light straight ahead.<sup>2</sup> In operation, one places the hemispherical shield 12 (see FIG. 4) up against the plaque and vaporizes a small amount of plaque with laser light. Then, one advances the shield and repeats the process.

Applicant requests reconsideration of the rejection based on *Hayes* because *Hayes* fails to teach

"an atraumatic light coupler in contact with the optical fiber, the coupler being configured to atraumatically contact the intraluminal wall at a point at which light exits the atraumatic light-coupler and enters the wall."

As a threshold matter, the claim, as amended, now requires *contact* between the fiber and the coupler, not merely "optical communication." In *Hayes*, the fibers are *not in contact* with the shield, they are only in optical communication with the shield.

Moreover, in *Hayes*, light never actually enters the wall. Since the light exiting the shield never actually reaches the wall, the *Hayes* shield cannot be "configured to atraumatically contact the intraluminal wall at a point at which light exits the atraumatic light-coupler *and* enters the wall."

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<sup>1</sup> *Hayes*, et al. U.S. Patent No. 4,967,745.

<sup>2</sup> *Hayes*, col. 9, lines 42-46

Applicant further notes that in FIG. 4, certain fibers are angled such that, if there were no plaque in the way, and if the wavelengths of the light were selected to penetrate blood, some photons of light from the fibers might eventually reach the wall.

However, according to *Hayes*, "[o]ptical fibers 20b' aimed at blood in lumen 36, and 20c' aimed at artery wall 32 are *not fired*."<sup>3</sup>

It appears that the *Hayes* device is something one might be forced to use if vulnerable plaque in the wall were to somehow escape and clog the artery. In contrast, the claimed device is intended to detect the existence of such plaque before it has a chance to clog the artery.

This difference in function results in differences in structure. To use the claimed invention, one slides the coupler along the arterial wall searching for vulnerable plaque. The risk in doing this is that the coupler might rupture the fibrous cap and cause the release of plaque from out of the wall and into the artery. This risk is reduced by having an atraumatic coupler.

The *Hayes* device is intended for those unfortunate patients in which this risk has already materialized, and whose arteries are now clogged with plaque. The tip of the *Hayes* device is therefore never intended to touch the arterial wall. Instead, it is intended to seat itself against the plaque. There would certainly be no point in atraumatically coupling the tip to the plaque, since the whole point of the *Hayes* device is to destroy the plaque. Hence, there would be no need for an atraumatic coupler in *Hayes*.

#### Summary

Applicant acknowledges the telephone call with the Examiner on July 9, 2007 to discuss the possibility of a telephone interview to discuss *Hayes*, and to entertain possible amendments to place the application in condition for allowance. Applicant looks forward to the opportunity for such an interview.


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<sup>3</sup> *Hayes*, col. 10, lines 11-13, [emphasis supplied].

No fees are believed to be due with the filing of this request for reconsideration.  
However, to the extent fees are due or a refund is forthcoming, please adjust our Deposit  
Account No. 06-1050, referencing Attorney Docket No. 12258-029001.

Respectfully submitted,

Date: July 9, 2007

  
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